

Breakout Sessions

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Golden-winged Warbler by Ray Hennessy, Shutterstock

Prescription Exercise

- Each table has:
 - 3 scenarios (8 scenarios total)
 - 5 priority bird species profiles
 - From Michigan. Feel free to use other species not provided
 - 1 FMB Manager's guide
- Your job:
 - Collaborate to write a silvicultural prescription for each scenario

Scenario #1

Acres: 100
Forest Type: Northern Hardwoods
Basal Area: 90
Average DBH: 10
Site Index: 62 for sugar maple
Soils: Silt Loam, well drained

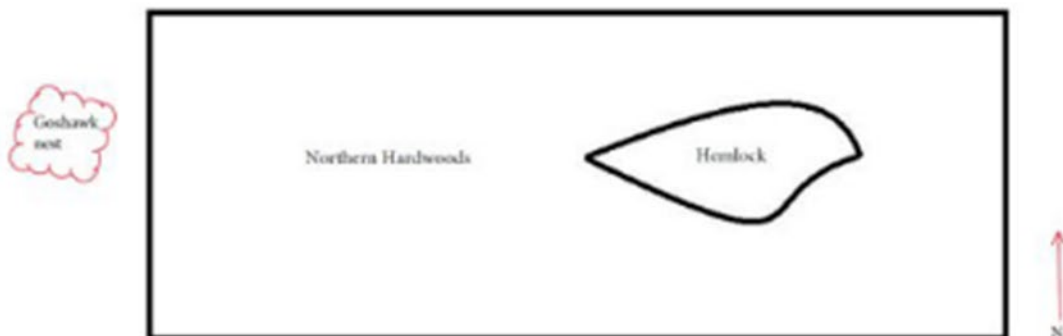
Acres: 20
Forest Type: Hemlock
Basal Area: 120
Average DBH: 15
Site Index: 57 for sugar maple
Soils: Silt Loam, well drained

Forest Health Issues: None

Landowners Goals: Deer Habitat, produce timber income.

Forest Property Description: This landowner bought the property last year and they're looking to improve deer habitat while making a little income. The northern hardwood stand consists mainly of sugar maple with scattered yellow birch and basswood. It was last cut 5 years ago with single-tree selection silviculture. The understory contains thick patches of maple seedlings in some areas, but others are bare. The hemlock stand also includes sugar maple, yellow birch, and balsam fir. It was left alone to naturally grow and provide thermal cover and old growth forest conditions.

Landscape: The surrounding landscape is completely forested with a continuous overstory and few large openings. The landowner has indicated that he's found an active goshawk nest on the neighbor's property close to their own western property line.



Wood Thrush (*Hylocichla mustelina*)



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FOREST AGE CLASS: Older Forest

IDENTIFICATION: A pot-bellied body, short tail, large head, and upright posture give it the profile of a scaled-down American Robin. Warm reddish-brown upperparts, bold black spots on white underparts, and a bold white eyering.

SONG: A flute-like *ee-oh-lay* is the middle phrase of a three-part song. There are several song variants with 2-10 loud, clear notes.

NEST: Open cup nest of leaves, grasses, and mud. Nest height varies; average is 7-8 feet off the ground in a sapling or shrub.

FOOD: Invertebrates and some fruits. Forages on or near the ground in leaf litter and low vegetation.

TERRITORY SIZE: 0.2-7 acres. Found throughout Michigan, primarily in the L.P.

CLIMATE VULNERABILITY: High. Predicted to lose most of range in the L.P. and maintain range in the U.P.

HABITAT FEATURES & MANAGEMENT RECOMMENDATIONS:

Moist, deciduous woods with structural diversity: moderately dense understory of saplings and shrubs, ideally within a large block (>200 acres) of unfragmented forest. Nests placed in fragmented tracts and near forest edges experience more predation and are often parasitized by Brown-headed Cowbird, reducing breeding success. Retain large, mature trees (>80% canopy cover) within a stand, providing a shaded forest floor with moist soil and decaying leaf litter. Plant native trees and fruit-bearing shrubs for site-level habitat enhancement, or create canopy gaps to promote understory vegetation growth.^{14,15}

Broad-winged Hawk (*Buteo platypterus*)



© Paul Reeves Photography/Shutterstock



FOREST AGE CLASS: Older Forest

IDENTIFICATION: Small, compact raptor with a chunky body and large head. Adult has reddish-brown head, barred underparts, and broad black and white bands on the tail. The pale undersides of the wings have dark brown edges.

CALL: A plaintive, high-pitched whistle that lasts 2-4 seconds, with a short first note and a long second note: *kee-eee*.

NEST: Large stick nest; usually located in the lower third of a tree canopy, on a main limb. Often nests near forest openings or water bodies.

FOOD: Amphibians are an important component of the diet (especially frogs and toads); also consumes small mammals, juvenile birds, and insects.

TERRITORY SIZE: Nests at least 0.5 mile from other Broad-winged Hawk pairs. Found primarily in the U.P. and the northern L.P.

CLIMATE VULNERABILITY: Low. Predicted to lose all of Michigan range but has good potential to expand in much of its North American breeding range.

HABITAT FEATURES & MANAGEMENT RECOMMENDATIONS:

Diverse, unfragmented hardwood or mixedwood forest with small openings and wetlands. Manage for tree species diversity, create small openings where there are none, and avoid forest fragmentation. Retain large diameter trees (>12-15" DBH) for nest tree sites, especially aspen or birch; these should be interspersed among smaller diameter trees.

Things to think about...

- Is there a focal bird species to use?
- How will your prescription impact birds?
 - What are the Landscape-level considerations?
 - What are the Stand-level considerations (food, shelter, water, etc.)?
- Are there any changes to your “business as usual” silvicultural prescriptions that could provide something for a focal bird?
- Bonus points for Climate Change adaptation.

Discussion

Scenario #1

Acres: 100
Forest Type: Northern Hardwoods
Basal Area: 90
Average DBH: 10
Site Index: 62 for sugar maple
Soils: Silt Loam, well drained

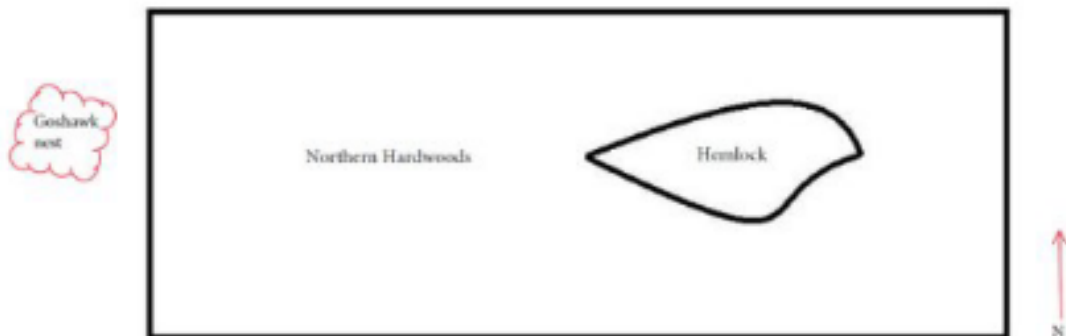
Acres: 20
Forest Type: Hemlock
Basal Area: 120
Average DBH: 15
Site Index: 57 for sugar maple
Soils: Silt Loam, well drained

Forest Health Issues: None

Landowners Goals: Deer Habitat, produce timber income.

Forest Property Description: This landowner bought the property last year and they're looking to improve deer habitat while making a little income. The northern hardwood stand consists mainly of sugar maple with scattered yellow birch and basswood. It was last cut 5 years ago with single-tree selection silviculture. The understory contains thick patches of maple seedlings in some areas, but others are bare. The hemlock stand also includes sugar maple, yellow birch, and balsam fir. It was left alone to naturally grow and provide thermal cover and old growth forest conditions.

Landscape: The surrounding landscape is completely forested with a continuous overstory and few large openings. The landowner has indicated that he's found an active goshawk nest on the neighbor's property close to their own western property line.



- What silvicultural prescription did you prescribe? Why?
- Was there a focal bird that you associated the work with?
- What stand-level characteristics are you providing for birds?
- Any Climate Change adaptation efforts?
- What other wildlife benefit from this prescription?
- What difficulties or challenges did you have, or could you have?

Scenario #2:

Acres: 300
Forest Type: Aspen, with mixed spruce/fir
Basal Area: 90
Site Index: 65 for bigtooth aspen
Soils: silty clay loam. Poorly drained.

Acres: 75
Forest type: tag alder
Stocking: overmature, thick, 15 feet tall
Soils: silty clay loam. Poorly drained.

Forest Health Issues: Aspen has reached mature age and some of the spruce shows signs of budworm damage.

Landscape: The surrounding landscape contains the same forest types, a 200-acre wetland to the west, and scattered farm fields to the east mixed with forested parcels.

Landowners Goals: Improve wildlife habitat, especially for birds. Timber income would be nice, but not a priority. The landowner recently bought the property two years ago and their main interest is making their property the best it can be for wildlife.

Forest Property Description: The property consists mostly an Aspen-Spruce-Fir stand (heavy on the aspen) split into three 100-acre stands by the intersecting acres of tag alder in the middle. There's an occasional scattering of bur oak, maples, and white pines in small amounts. About 60 acres of the alder is on somewhat dry soils, but the rest closest to the wetlands is starting to grow cattails.



- What silvicultural prescription did you prescribe? Why?
- Was there a focal bird that you associated the work with?
- What stand-level characteristics are you providing for birds?
- Any Climate Change adaptation efforts?
- What other wildlife benefit from this prescription?
- What difficulties or challenges did you have, or could you have?

Scenario #3:

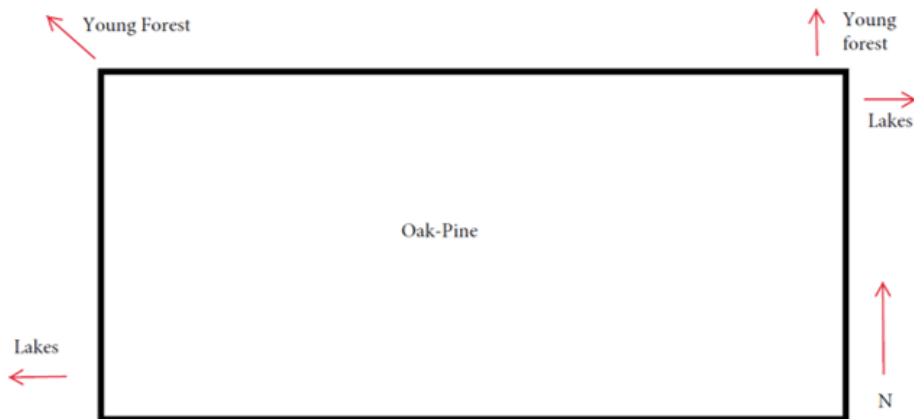
Acres: 200
Forest Type: oak-pine
Basal Area: 100
Site Index:
Average DBH: 8 inches
Soils: Sand; excessively drained

Forest Health Issues: Nothing of major concern

Landowners Goals: This land is owned by the US Forest Service. The main goal is to be good stewards of the land through sustainable conservation, restoration, and preservation.

Forest Property Description: The property consists mostly of Jack pine with a small mixture of pin oak, black cherry, eastern white pine, and a couple acre pocket of aspen. It has not been actively managed in several decades. The ground flora contains low sweet blueberry, sweet fern, bracken fern, and reindeer lichen.

Landscape: The surrounding landscape is dotted with small lakes and is mostly forested. Other properties nearby have been managed and about 25% of the landscape currently consists of young jack pine forest less than 15 years old.



- What silvicultural prescription did you prescribe? Why?
- Was there a focal bird that you associated the work with?
- What stand-level characteristics are you providing for birds?
- Any Climate Change adaptation efforts?
- What other wildlife benefit from this prescription?
- What difficulties or challenges did you have, or could you have?

Scenario #4:

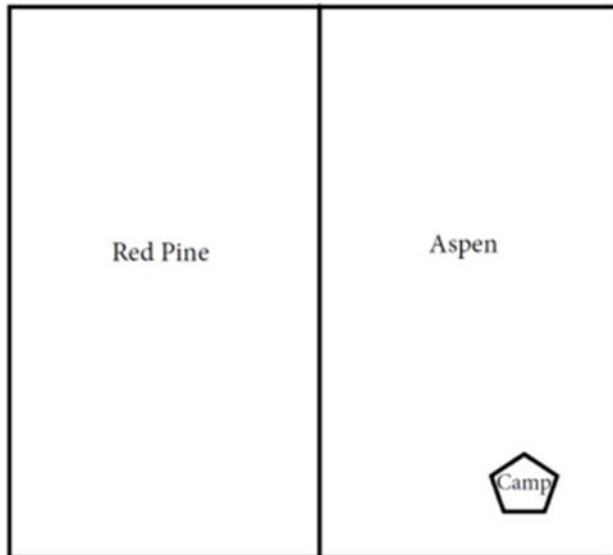
Acres: 20
Forest Type: red pine plantation
Basal Area: 150
Average DBH: 10 inches
Site Index:
Soils: Loamy sand, well drained

Acres: 20
Forest Type: Bigtooth Aspen
Basal area: 80
Average DBH: 10 inches
Site index:
Soils: Loamy sand, well drained

Forest Health Issues: autumn olive present throughout the red pine stand and slightly into the aspen stand.

Landowners Goals: manage the red pine for income while providing the best wildlife habitat his property will allow for all wildlife.

Forest Property Description: The red pine plantation is high quality timber, 20 acres in size, about 45 years old, and was previously thinned 10 years ago. The rest of the 40-acre property is a mixture of aspen, red maple, and balsam fir, with an occasional red oak. The owner has his cabin on the eastern edge of this property surrounded by the aspen stand.



- What silvicultural prescription did you prescribe? Why?
- Was there a focal bird that you associated the work with?
- What stand-level characteristics are you providing for birds?
- Any Climate Change adaptation efforts?
- What other wildlife benefit from this prescription?
- What difficulties or challenges did you have, or could you have?

Scenario #5:

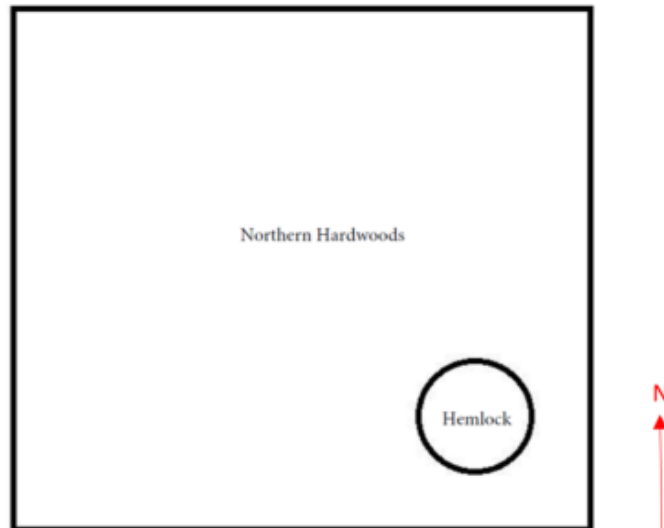
Acres: 40
Forest Type: Northern Hardwoods
Basal Area: 110
Average DBH: 11 inches
Site Index:
Soils: Loamy sand, well drained

Forest Health Issues: minimal understory present. Common buckthorn and honeysuckle are present.

Landowners Goals: provide high quality wildlife habitat for all wildlife. Timber income is nice, but not a high priority.

Landscape: Agricultural fields surround all four sides of this forest and 50% of the nearby landscape.

Forest Property Description: The property has been in the family for 40 year and was thinned 20 years ago. The landowners can remember when the understory was full and lively, but now there isn't much growing anymore due to the closed canopy and deer pressure, except along the edges where autumn olive and honeysuckle is starting to grow. The trees are mostly sugar maple, with yellow birch, American beech, and a small pocket of hemlock trees. Many of the trees are sawlog sized and high-quality timber with a small number of trees above 20 inches at DBH.



- What silvicultural prescription did you prescribe? Why?
- Was there a focal bird that you associated the work with?
- What stand-level characteristics are you providing for birds?
- Any Climate Change adaptation efforts?
- What other wildlife benefit from this prescription?
- What difficulties or challenges did you have, or could you have?

Scenario #6:

Acres: 50
Forest Type: Cedar Swamp
Basal Area: 100
Average DBH: 10 inches
Site Index: 64 for Red Maple
Soils: sandy-muck, poorly drained

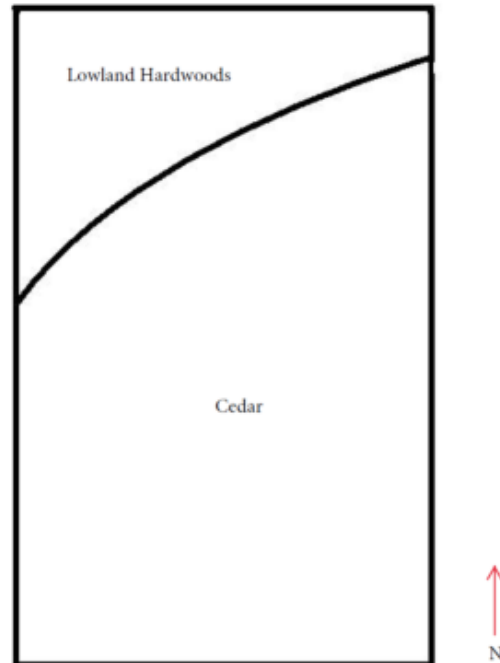
Acres: 30
Forest Type: Lowland mixed hardwoods
Basal Area: 100
Average DBH: 10 inches
Site Index: 64 for Red Maple
Soils: sandy-muck, poorly drained

Forest Health Issues: Emerald ash borer is starting to show presence in the ash trees.

Landowners Goals: Improve Forest health and wildlife habitat, mainly for deer.

Forest Property Description: The 50 acres of swamp contain mostly white cedar, balsam fir, and black spruce. Deer can commonly be found in these areas during the winter, but they've eaten every cedar needle they could reach and heavily impacted other species. The lowland hardwoods consist of ash, spruce, fir, white pine, and white birch. Although showing signs of EAB damage, most of the ash trees are still alive.

Landscape: The surrounding ½ mile radius contains drumlins with upland hardwoods on them that drop back down into lowland conifer swamps or hardwood stands. Agricultural fields dot the landscape to the north and west of the property, but south and east are heavily forested.



- What silvicultural prescription did you prescribe? Why?
- Was there a focal bird that you associated the work with?
- What stand-level characteristics are you providing for birds?
- Any Climate Change adaptation efforts?
- What other wildlife benefit from this prescription?
- What difficulties or challenges did you have, or could you have?

Scenario #7:

Acres: 40
Forest Type: Mixed Upland Hardwoods
Basal Area: 110
Average DBH: 11 inches
Site Index:
Soils: Loam

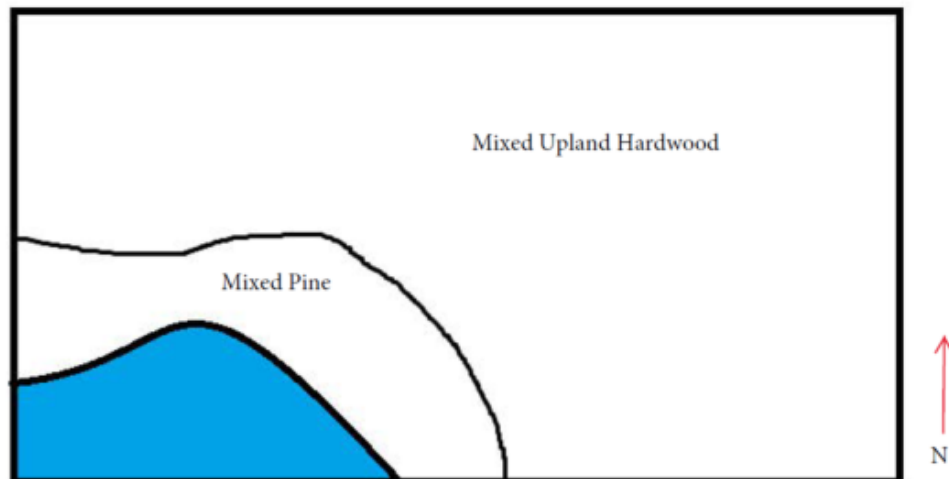
Acres: 10
Forest Type: Mixed Pine
Basal Area: 180
Average DBH: 10 inches
Site Index:
Soils: Clay loam

Forest Health Issues: The property has presence of Emerald Ash Borer, common Buckthorn, autumn olive, and multiflora rose.

Landowners Goals: make the property an example of responsible and sustainable forest management. Improve the property for wildlife habitat, forest health, and ecological benefits.

Forest Property Description: The 40 acres of oak forest has beautiful northern red oaks, sugar maple, red maple, and some aspen. The stand contains a high number of large trees (18+ inches DBH) with red oak being the predominant species. The understory consists mostly of red maple and red oak. The stand of pine trees consists of red and white pine initially planted in the 1960's. The understory in the pines is a mixture of the hardwood species present in the oak stand. The property also borders along a small lake.

Landscape: the surrounding landscape is a mixture of agricultural fields (25%), small lakes (10%), forestland (40%) and residential development (25%).



- What silvicultural prescription did you prescribe? Why?
- Was there a focal bird that you associated the work with?
- What stand-level characteristics are you providing for birds?
- Any Climate Change adaptation efforts?
- What other wildlife benefit from this prescription?
- What difficulties or challenges did you have, or could you have?

Scenario #8:

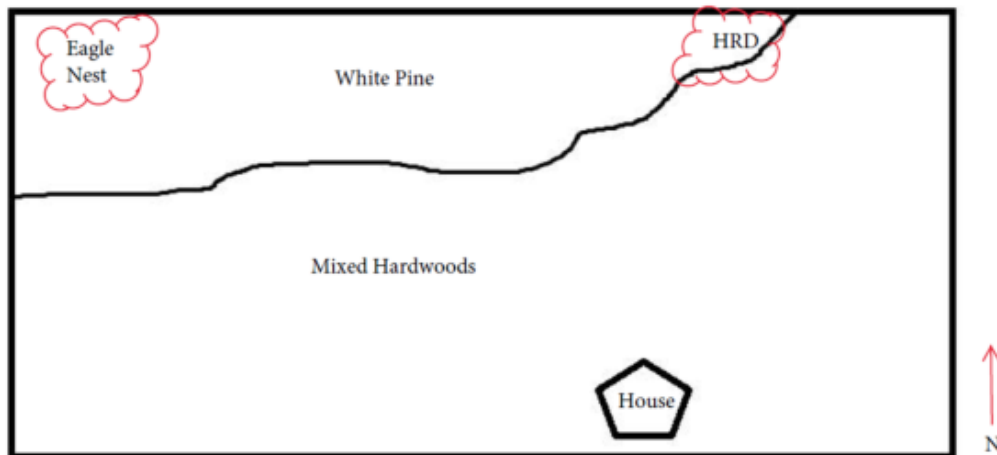
| | | | |
|---------------------|-------------------------|---------------------|-------------------------|
| <u>Acres:</u> | 20 | <u>Acres:</u> | 60 |
| <u>Forest Type:</u> | White Pine | <u>Forest Type:</u> | Mixed hardwoods |
| <u>Basal Area:</u> | 225 | <u>Basal Area:</u> | 90 |
| <u>Average DBH:</u> | 18 | <u>Average DBH:</u> | 10 |
| <u>Site Index:</u> | 60 for white pine | <u>Site Index:</u> | 62 for red maple |
| <u>Soils:</u> | Sand, very well drained | <u>Soils:</u> | Sand, very well drained |

Forest Health Issues: Heterobasidion root rot (Formerly Annosum root rot) is present in a couple white pines on the east side of the stand

Landowners Goals: The landowner lives on the property and wants advice to maintain the property for wildlife habitat but doesn't want to cut any trees.

Forest Property Description: The property contains a 20-acre stand of large natural white pines. This stand has not been managed and has become the home to a breeding pair of Bald eagles along the north property lines. The other 60 acres is a mixture of red maple, paper birch, black cherry, and small amount of northern red oak, with red maple being the dominant species in terms of basal area.


Landscape: The surrounding landscape is mostly forested with a couple small lakes and farm fields nearby.



- What silvicultural prescription did you prescribe? Why?
- Was there a focal bird that you associated the work with?
- What stand-level characteristics are you providing for birds?
- Any Climate Change adaptation efforts?
- What other wildlife benefit from this prescription?
- What difficulties or challenges did you have, or could you have?

Final Takeaways

- Quick Silvicultural Tips
 - No one size fits all
 - Consider which birds need the most help
 - Consider what birds are present on site (learn to ID them)

A photograph of a Wood Thrush bird sitting on a nest made of sticks and leaves, perched on a tree branch. The bird has a brown back and a white breast with dark spots. A speech bubble above the bird contains the text "Thanks for making my home!". The background is a soft-focus green, suggesting a forest setting.

Thanks for
making my
home!

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